PROJECT TITLE : CIGARETTE DEVELOPMENT 2

PERIOD COVERED : MARCH 26 - APRIL 30 1981

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375 TENNIS 100'S

Objective

a) To evaluate the physical, chemical and organoleptic characteristics of the current MARLBORO blend UK supplied by the different production centres, by using the construction of MARLBORO 100'S and flavoured filters.
b) To determine the optimum tobacco weight for the MARLBORO 100'S UK for the issue of the final production specifications.

Description of samples and results

Tobacco cut-fillers, used in the making of the current UK MARLBORO, were produced at Silvertown, Eindhoven and Weltab and sent to FTR for complete evaluation.
Before the making of cigarette prototypes, each cut-filler was analysed to find the quality of its tobacco strands.
The results of this evaluation are stated below :

CUT-FILLER DEGRADATION ANALYSES
SCREEN SIZE

Origin	No 10 % $\bar{x}6$	No 20 % $\bar{x}6$	No 30 % $\bar{x}6$	No 50 % $\bar{x}6$	Fines % $\bar{x}6$	Moisture % $\bar{x}6$	Filling power ml/10 gr at 12 % moisture $\bar{x}12$
Silvertown	52.1	36.6	8.8	1.5	1.0	14.7	42.0
Eindhoven	49.4	36.6	10.3	2.3	1.4	14.1	42.2
Weltab	44.2	39.0	12.9	2.7	1.2	14.6	42.0

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By using the above mentioned cut-fillers, cigarette prototypes were produced in the 100 mm format and, for each of these prototypes, two different weights were selected and evaluated.
The results obtained on the above prototypes are given below.

Prototype No		1C1	1C1	1C2	1C2	1C3	1C3
Blend No		GB 0137501R02					
Origin		Silvertown		Eindhoven		Weltab	
Total weight	mg/cig.	1174	1150	1170	1140	1170	1146
Tobacco weight	mg/cig.	885	871	881	851	878	857
Compressibility at 12 % Moisture	mm	3.40	3.64	3.69	3.66	3.57	3.44
TAR	mg/cig.	14.4	14.0	16.3	15.7	14.8	14.6
SN	mg/cig.	1.29	1.29	1.44	1.42	1.32	1.32
CO	mg/cig.	14.1	14.0	14.1	14.8	14.0	14.5
NO	mg/cig.	0.17	0.16	0.15	0.14	0.18	0.17
Puff count		10.5	10.0	10.8	10.1	10.4	10.2

Comments

The results obtained on the degradation analysis show some significant differences in the quality of the tobacco strands between the three production centres. However, the Eindhoven cut-filler shows a better strand-size dispersion which indicates greater uniformity in the blend. A significant difference is apparent in the tar and nicotine deliveries, these being too low for Silvertown and Weltab while Eindhoven is right on target.
The organoleptic characteristics of the three prototypes were evaluated and the No 1 C 2 was preferred by the leaf experts because it is fuller in taste, uniform and pleasant to smoke. Based on this prototype, the final production specifications will be derived and issued to the production centres concerned.

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Source: https://www.industrydocuments.ucsf.edu/docs/jnxk0000

Objective

To develop a MARLBORO for the UK having characteristics equal or similar to those of the Pan-European standards by using a special Richmond flavour system, on tobacco only, thus eliminating the use of flavoured filters, while conforming to the Hunter list.

Description of samples and results

To achieve the proposed goal, three cigarette prototypes were produced and standard MARLBORO blend UK with non-tobacco materials of the standard Swiss MARLBORO were used. From the above-mentioned tobacco blend three batches were processed, following application of different ingredients. For each batch, one cigarette prototype was produced, described and evaluated as stated below :

Prototype No		35 P	36 P	37 P
Blend No		-----	GB0120804N02	-----
Version		A	B	C
Cig. total weight	mg/cig.	1065	1070	1070
Tobacco weight	mg/cig.	835	840	838
TAR	mg/cig.	14.8	13.7	15.0
SN	mg/cig.	1.10	1.05	1.11
CO	mg/cig.	14.8	14.6	14.8
NO	mg/cig.	0.24	0.24	0.23
Puff count		9.1	9.1	9.1

The obtained analytical values are seen to be within the objective; only prototype No 36 P is low in tar and nicotine deliveries, the cause of which could be found in the too high tobacco moisture-content. Concerning the organoleptic qualities, the Leaf experts preferred prototype No 37 P version C, this being the best alternative among the three versions. This gives MARLBORO characteristics as fas as impact is concerned and it is bright like a typical MARLBORO, but lacks some fruity taste. This prototype is considered as being a good basis for continuing TENNIS development. In addition, we can say that the used of special RL (US) in the blend did not disturb the balance of the smoke organoleptic characteristics.
Based on prototype No 37 P version C, another three prototypes were made. For these, standard MARLBORO blend UK was used and the three new versions were produced following the construction of the above-mentioned prototype where only the concentration of the AC-solution was changed and some humectants replaced and all this respecting the Hunter list.

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The results of these trials are given in the table below :

Prototype No		41 P	42 P	43 P
Blend No		-----	GB0120804N02	-----
Version		D	E	F
Cig. total weight	mg/cig.	1040	1050	1030
Tobacco weight	mg/cig.	815	820	800
TAR	mg/cig.	15.3	15.1	15.6
SN	mg/cig.	1.11	1.13	1.19
CO	mg/cig.	16.0	16.5	15.9
NO	mg/cig.	0.23	0.25	0.23
Puff count		8.9	9.0	8.9

As the analytical values of the three prototypes were within the acceptability limits, they were then submitted to Panel A to be taste tested. The Leaf experts found prototype No 43 P version F to be the closest in taste and character to the Pan-European standards. However, the cigarette lacks some sweetness, therefore new trials will be undertaken to obtain the right candidate.

Comments

A meeting concerning the TENNIS situation UK was held in Lausanne on April 28th 1981 with the participation of UK product Coordination, RME Coordination, Leaf experts Lausanne and an FTR representative. The issue of this meeting has proven to be of realistic value; everyone agreed on the qualities of cigarette prototype No 43 P version F for which only some fine tuning is needed.
At this stage, it can be said that good progress has been made in the field of the TENNIS project.

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